10/764,389

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FILE 'HOME' ENTERED AT 14:41:16 ON 15 AUG 2006

=> file reg
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1.89	1.89

FILE 'REGISTRY' ENTERED AT 14:46:42 ON 15 AUG 2006

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 14 AUG 2006 HIGHEST RN 901253-54-1
DICTIONARY FILE UPDATES: 14 AUG 2006 HIGHEST RN 901253-54-1

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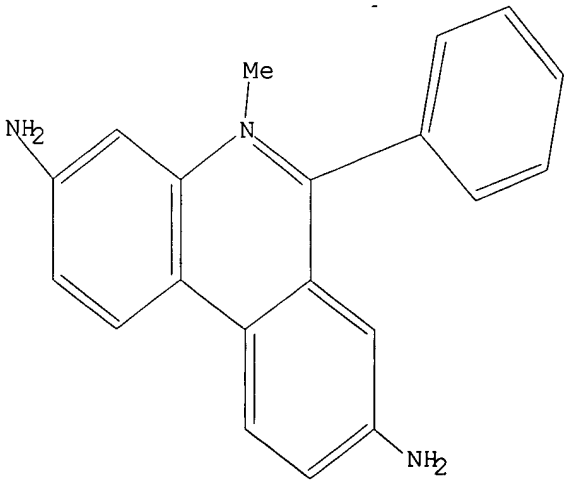
http://www.cas.org/ONLINE/UG/regprops.html

*** YOU HAVE NEW MAIL ***

=>
Uploading C:\Program Files\Stnexp\Queries\10764389.str

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

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=> s l1 full
FULL SEARCH INITIATED 14:47:30 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -     1406 TO ITERATE

100.0% PROCESSED     1406 ITERATIONS                                 163 ANSWERS
SEARCH TIME: 00.00.01

L2          163 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                     167.38     169.27

FILE 'CAPLUS' ENTERED AT 14:47:36 ON 15 AUG 2006
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FILE COVERS 1907 - 15 Aug 2006  VOL 145 ISS 8
FILE LAST UPDATED: 14 Aug 2006  (20060814/ED)

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http://www.cas.org/infopolicy.html

=> s l2
L3          189 L2

=> s l3 and second dye
         538711 SECOND
         256811 DYE
            137 SECOND DYE
                  (SECOND(W)DYE)
L4            0 L3 AND SECOND DYE

=> s l3 and dye
         256811 DYE
L5           11 L3 AND DYE

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6           11 DUP REM L5 (0 DUPLICATES REMOVED)

=> d l6 bib abs hitstr 1-11

L6   ANSWER 1 OF 11  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2004:885065  CAPLUS
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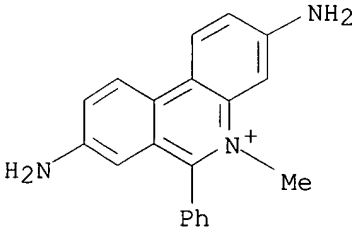
DN 142:281518
TI Investigation on the solubilization of organic dyes and micro-polarity in AOT water-in-CO2 microemulsions with fluorinated co-surfactant by using UV-Vis spectroscopy
AU Liu, Juncheng; Ikushima, Yutaka; Shervani, Zameer
CS Supercritical Fluid Research Center, National Institute of Advanced Industrial Science and Technology, Miyagino-ku, Sendai, 983-8551, Japan
SO Journal of Supercritical Fluids (2004), 32(1-3), 97-103
CODEN: JSFLEH; ISSN: 0896-8446
PB Elsevier B.V.
DT Journal
LA English
AB It was found that the dyes thymol blue, dimidium bromide, and methyl orange, which are not soluble in pure supercrit. CO2, could be conveniently solubilized in AOT water-in-CO2 reverse microemulsions with 2,2,3,3,4,4,5,5-octafluoro-1-pentanol as co-surfactant. The solubilities of the dyes in the microemulsions were measured successfully by using a UV-visible spectroscopy method newly established in our laboratory; besides that, for a given temperature, a critical micelle pressure at which formation of AOT water-in-CO2 reverse micelles starts, was determined in term of the effect of pressure on the absorption intensity of the dyes in the microemulsions. Furthermore, the micro-polarity environment of the AOT water-in-CO2 reverse microemulsions was investigated systematically according to the shift of the solvatochromic probes methyl orange and dimidium bromide with varying water content by using UV-visible spectroscopy.
IT 518-67-2, Dimidium bromide
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(dye; solubilization of dyes and micro-polarity in AOT water-in-CO2 microemulsions with fluorinated co-surfactant)
RN 518-67-2 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl-, bromide (8CI, 9CI) (CA INDEX NAME)

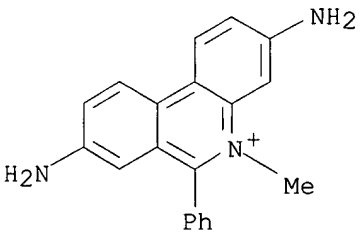


● Br^-

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:908044 CAPLUS
DN 134:168628
TI Mechanisms of Solute Interfacial Transfer in Winsor-II Systems
AU Steytler, David C.; Towey, Thomas F.; Robinson, Brian H.; Atay, N. Zeynep
CS School of Chemical Sciences, University of East Anglia, Norwich Norfolk, NR4 7TJ, UK
SO Langmuir (2001), 17(2), 417-426
CODEN: LANGD5; ISSN: 0743-7463
PB American Chemical Society

DT Journal
LA English
AB The forward transfer kinetics of a water-soluble cationic dye (dimidium) across the planar interface from a conjugate aqueous phase to a water-in-oil (w/o) microemulsion phase (formed using the anionic surfactant Aerosol-OT) have been investigated by means of a rotating diffusion cell. By measurement of the solute flux as a function of rotation speed of the diffusion cell membrane, the influence of mass transport effects to and from the interface could be controlled and eliminated by extrapolation to infinite rotation speed. The rate of forward transfer was linearly proportional to the concentration of solute in the aqueous phase; i.e., it was not possible to saturate the aqueous side of the interface. The rate, however, was found to reach a limiting value on increasing the concentration of nano water droplets in the microemulsion phase. This is explained by a transport model in which the dye initially partitions to the aqueous side of the interface; it then enters the organic phase inside a forming water droplet. The rate of back transfer of H+ from a microemulsion droplet phase into a coexisting water phase has also been studied as a function of droplet concentration and temperature These results extend previous measurements on the same system. It is shown that enthalpy-entropy compensation effects operate for the rate-determining step. In the proposed model for defining dynamics of interface transfer from or to an aqueous phase in Winsor-II systems, the rate-determining step is the same for forward and back transfer and is concerned with droplet coalescence with the interface.
IT 518-67-2, Dimidium bromide
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(forward transfer kinetics of dimidium bromide cationic dye and backwards transfer of H+ across planar interface from a conjugate aqueous phase to a AOT/n-heptane/water microemulsion investigated by a rotating diffusion cell)
RN 518-67-2 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl-, bromide (8CI, 9CI) (CA INDEX NAME)



● Br^-

RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

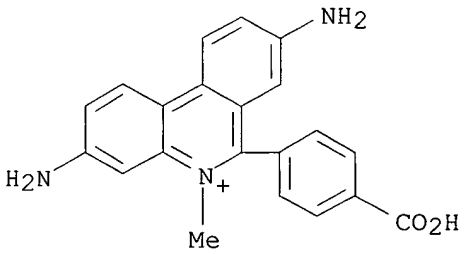
L6 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:779154 CAPLUS
DN 132:9613
TI Energy transfer hybridization assay using intercalators and lanthanide metals

IN Rabbani, Elazar; Hurley, Ian
PA Enzo Diagnostics, Inc., USA
SO U.S., 53 pp., Cont. of U.S. Ser. No. 194,215, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5998135	A	19991207	US 1995-486053	19950607
	US 6239271	B1	20010529	US 1999-386695	19990831
	US 2001026921	A1	20011004	US 2001-815649	20010323
	US 6566068	B2	20030520		
PRAI	US 1989-314995	B1	19890224		
	US 1994-194215	B1	19940209		
	US 1995-486053	A1	19950607		
	US 1999-386695	A1	19990831		

AB Disclosed is a nucleic acid hybridization assay composition for detecting the presence of absence of a target oligonucleotide or polynucleotide in a sample. The composition comprises: a solid matrix having at least one surface which is substituted with a first intercalator capable of binding dsDNA dsRNA, or DNA-RNA hybrids; a second intercalator, which may or may not comprise at least one fluorophore, said intercalator or said fluorophore each acting as either an energy donor or an energy acceptor; and an oligo- or polynucleotide probe which is specifically hybridizable with the target oligo- or polynucleotide and has directly or indirectly bound thereto, at least one lanthanide metal chelate or at least one fluorophore, each acting as either an energy donor or an energy acceptor. The method is exemplified such that the first intercalator, the phenanthridine dye M-B 3492, is used to capture the double-stranded target-probe hybrid to the surface of the slide and a second intercalator, 9-aminoacridine, is used in solution as the energy donor. Also disclosed are a method and kit for its use.

IT 52671-19-9
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(energy transfer hybridization assay using intercalators and lanthanide metals)
RN 52671-19-9 CAPLUS
CN Phenanthridinium, 3,8-diamino-6-(4-carboxyphenyl)-5-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:558603 CAPLUS
DN 125:243846
TI Luminal transport system for choline+ in relation to the other organic

cation transport systems in the rat proximal tubule. Kinetics, specificity: alkyl/arylamines, alkylamines with OH, O, SH, NH2, ROCO, RSCO and H2PO4-groups, methylaminostyryl, rhodamine, acridine, phenanthrene and cyanine compounds

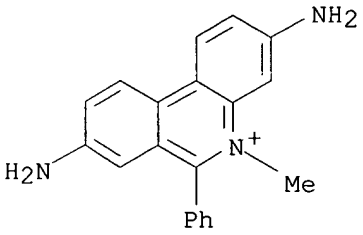
AU Ullrich, Karl J.; Rumrich, Gerhard
CS Max Planck Inst. Biophysik, Frankfurt am Main, D-60596, Germany

SO Pfluegers Archiv (1996), 432(3), 471-485
CODEN: PFLABK; ISSN: 0031-6768
PB Springer
DT Journal
LA English

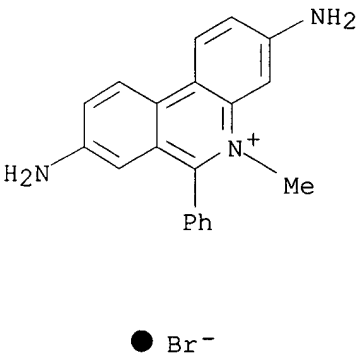
AB The efflux of [3H]choline+ from the proximal tubular lumen was measured by using the stop-flow microperfusion method. The 2-s efflux of [3H]choline+ follows kinetics with a Michaelis constant, Km = 0.18 mmol/L, maximal flux Jmax = 0.43 pmol cm-1 s-1, and a permeability term = 38.0 μm2 s-1. Replacement of Na+ by N-methyl-D-glucamine+ or Li+, or a change of luminal pH do not alter choline+ efflux. Replacement of Na+ by Cs+ inhibits 2-s choline+ (0.01 mmol/L) efflux by 22% and replacement by K+ inhibits by 49%, indicating that the elec. p.d. across the brush border membrane acts as driving force for choline+ transport. Comparing the apparent luminal inhibitory constant values for choline (apparatus Ki,l,choline+) with the chemical structure of inhibiting substrates, it was found that the inhibitory potency of amines with high pKa values, i.e. high basicity, and of quaternary ammonium compds. (tetra-Et to tetrahexylammonium) increases with their hydrophobicity in a similar manner as was observed previously against the contraluminal N1-methylnicotinamide (NMeN+) transporter and the luminal H+/organic cation (N-methyl-4-phenylpyridinium) (MPP+) exchanger. Independently of their hydrophobicity, an increase in the inhibitory potency of the homologous series of aminoquinolines against the choline+ transporter was observed with increasing pKa values, i.e. increasing basicity, as was found previously against the 2 other organic cation transporters. A third parameter influencing the interaction with the choline+ transporter is the presence of 2 amino groups with high pKa values or one amino group and a permanent pos. charge, as is documented with the 2-ring aminostyryl and rhodamine compds., as well as 3-ring aminoacridine, amminophenanthrene and cyanine compds. Thus with the aminostyryl, pyridinium+, rhodamine, phenanthridium+ and cyanine+ dyes app.Ki,l,choline+ values of between 0.01 and 0.07 mmol/L were found. A fourth parameter influencing the choline+ transporter is the presence of an OH group on the C atom next to that bearing the N atom (as in choline+) or an ester-OCOR group (acetylcholine+, butyrylcholine+) or a thioester-SCOR-group (acetylthiocholine+, butyrylthiocholine+); or an -OP(OH)2(OR) group (glycerylphosphoryl-choline+), resulting in app.Ki,l,choline+ values of 0.3-1.0 mmol/L. Thus, the substrates for the luminal choline+ transporter have general features in common with the luminal H+/organic cation exchanger and the contraluminal organic cation transporter, i.e. hydrophobicity and basicity. Addnl. parameters for interaction are an OH (or similar) group positioned a favorable distance from the N atom or a second amino/ammonium group in multi-ring compds.

IT 20566-69-2, Dimidium
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(kinetics and specificity of luminal transport system for choline+ in relation to other organic cation transport systems in rat proximal tubule)

RN 20566-69-2 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl- (8CI, 9CI) (CA INDEX NAME)



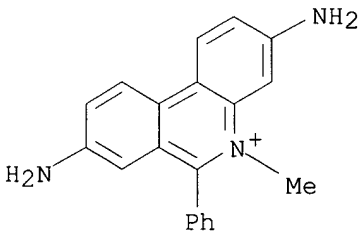
L6 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:860164 CAPLUS
DN 123:260410
TI Does the two-phase titration of surfactants require a mutagenic indicator?
AU Buschmann, N.
CS Lehrstuhl Analytische Chemie, Universitaet Muenster, Muenster, D-48149, Germany
SO Journal of the American Oil Chemists' Society (1995), 72(10), 1243
CODEN: JAOCA7; ISSN: 0003-021X
PB AOCS Press
DT Journal
LA English
AB Appropriate safety precautions are recommended when using the indicator mixture of dimidium bromide and disulphine blue, as dimidium bromide is chemical similar to ethidium bromide which is a known mutagen. When titrating anionic surfactants, dimidium bromide is found in the aqueous phase at the end of the titration; the dye should be removed by adsorption on activated charcoal which must be disposed of according to regulatory guidelines.
IT 518-67-2, Dimidium bromide
RL: ADV (Adverse effect, including toxicity); ARU (Analytical role, unclassified); ANST (Analytical study); BIOL (Biological study)
(possible mutagen; safety hazard alert in use of dimidium bromide in titration of surfactants)
RN 518-67-2 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl-, bromide (8CI, 9CI) (CA INDEX NAME)



● Br^-

L6 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:149737 CAPLUS
DN 124:235562
TI Indicator for the two-phase titration of ionic surfactants is possibly mutagenic
AU Buschmann, N.
CS CHAIR ANALYTICAL CHEMISTRY, WESTFALISCHE WILHELMS-UNIVERSITAT, Muenster, D-48149, Germany

SO Rivista Italiana delle Sostanze Grasse (1995), 72(11), 513
CODEN: RISGAD; ISSN: 0035-6808
PB Stazione Sperimentale per le Industrie degli Oli e dei Grassi
DT Journal
LA English
AB For the two-phase titration of anionic or cationic surfactants, the most frequently used indicator is a mixed indicator system consisting of dimidium bromide and Disulphine Blue. Recently, we noticed a similarity between ethidium bromide and dimidium bromide (I). Ethidium bromide is well known as a strong mutagenic and cancerogenic agent, reacting with DNA either by intercalation or external binding. The literature shows that I reacts with DNA in a similar way. When mixing aqueous solns. of DNA and I a change in the color of the solution can be observed, as well as a strong enhancement in the fluorescence intensity. Both the literature and the exptl. findings make it very likely that I shows mutagenic and cancerogenic properties that are similar to those of ethidium bromide. This estimation is shared by the USA National Cancer Institute. Up to now, only little is known about the ways of incorporation for both dyes. Ethidium bromide shows mutagenic and cancerogenic properties when coming in contact with the mucous membrane. The author has no information whether I will be incorporated if an aqueous solution is in contact with the intact epidermis. That would be the most probable way of incorporation when carrying out a two phase titration For that reason, the appropriate safety precautions should be taken when working with I: protection gloves and goggles and addnl., when working with the solid substance, dust mask. When titrating anionic surfactants, I will be found in the aqueous phase at the end of the titration The dye should be removed from the solution by adsorption on activated charcoal or on a polymeric resin like Amberlite XAD-16. After our experience an amount of 10 g activated charcoal is sufficient for the removal of I from one liter of the aqueous phase.
IT 518-67-2, Dimidium bromide
RL: ADV (Adverse effect, including toxicity); ARG (Analytical reagent use); NUU (Other use, unclassified); REM (Removal or disposal); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(dimidium bromide indicator for the two-phase titration of ionic surfactants is possibly mutagenic)
RN 518-67-2 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl-, bromide (8CI, 9CI) (CA INDEX NAME)



● Br^-

L6 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1992:2847 CAPLUS
DN 116:2847
TI Quantitative determination of a DNA polymerase using intercalating dyes
IN Sutherland, John W. H.; Sheridan, Patrick James; Mezei, Louis Michael
PA Eastman Kodak Co., USA; Cetus Corp.
SO Eur. Pat. Appl., 30 pp.

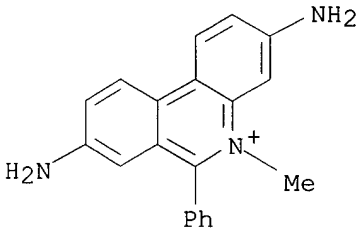
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 443823	A1	19910828	EP 1991-301326	19910220
	EP 443823	B1	19951108		
	R: AT, BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
	US 5049490	A	19910917	US 1990-482137	19900220
	CA 2036714	AA	19910821	CA 1991-2036714	19910220
	FI 9100822	A	19910821	FI 1991-822	19910220
	JP 06062898	A2	19940308	JP 1991-216703	19910220
	JP 3224566	B2	20011029		
	AT 130045	E	19951115	AT 1991-301326	19910220
PRAI	US 1990-482137	A	19900220		

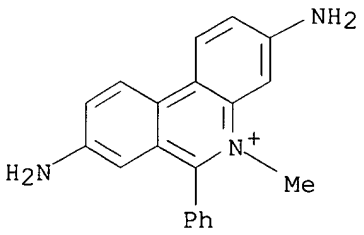
AB A fluorometric method for determination of DNA polymerase activity is described.

The method uses a single-stranded DNA template, a primer, and a dye that fluoresces when it is intercalated into double-stranded DNA but not when bound to single-stranded DNA. When Taq polymerase was assayed by this method using a bis-benzimide dye as fluorochrome a polymerase activity of 0.5 U/mL was detected in a 10 min incubation. Duplicate samples differed by ≤10%.

IT 20566-69-2
RL: ANST (Analytical study)
(as fluorochrome in fluorimeric assay for RNA polymerase)
RN 20566-69-2 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl- (8CI, 9CI) (CA INDEX NAME)

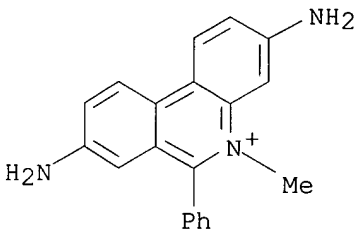


IT 518-67-2
RL: ANST (Analytical study)
(as fluorochrome in fluorimetric assay for DNA polymerase)
RN 518-67-2 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl-, bromide (8CI, 9CI) (CA INDEX NAME)



● Br^-

L6 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1991:8568 CAPLUS
DN 114:8568
TI Colorimetric determination of anionic surfactants
AU Orthgiess, Erhard; Dobias, Bohuslav
CS Inst. Phys. Makromol. Chem., Univ. Regensburg, Regensburg, Germany
SO Tenside, Surfactants, Detergents (1990), 27(4), 226-8
CODEN: TSDEES; ISSN: 0932-3414
DT Journal
LA German
AB A method for the determination of anionic surfactants such as alkyl- and alkylarylsulfates, -sulfonates, and -sulfosuccinates in aqueous solns. is based on the absorbance measurement of surfactant-dye (i.e., 3,8-diamino-5-methyl-6-phenylphenanthridinium bromide) complexes at 525 nm. The technique is simpler and faster than other colorimetric methods and can be used for the anal. of 1 + 10-4 to 5 + 10-7 M solns.
IT 518-67-2, 3,8-Diamino-5-methyl-6-phenylphenanthridinium bromide
RL: USES (Uses)
(complexing agents, in colorimetric determination of anionic surfactants)
RN 518-67-2 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl-, bromide (8CI, 9CI) (CA INDEX NAME)



● Br^-

L6 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1988:201319 CAPLUS
DN 108:201319
TI Polynucleotide detection by hybridization probe
PA Enzo Biochem, Inc., USA
SO Jpn. Kokai Tokkyo Koho, 31 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62163699	A2	19870720	JP 1986-295047	19861212
	JP 3293820	B2	20020617		
	JP 2002356496	A2	20021213	JP 2002-19249	19861212
	EP 231495	A2	19870812	EP 1986-117432	19861215
	EP 231495	A3	19900718		
	EP 231495	B1	19990616		
	R: AT, CH, DE, FR, GB, IT, LI, SE				
	CA 1339096	A1	19970729	CA 1986-525363	19861215
	EP 916737	A2	19990519	EP 1998-118357	19861215
	EP 916737	A3	20020306		
	R: AT, CH, DE, FR, GB, IT, LI, SE				

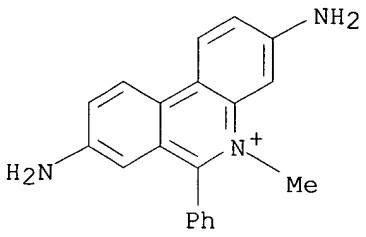
	AT 181366	E	19990715	AT 1986-117432	19861215
	JP 07322900	A2	19951212	JP 1995-140050	19950515
	JP 2735813	B2	19980402		
PRAI	US 1985-808757	A	19851213		
	JP 1986-295047	A3	19861212		
	EP 1986-117432	A3	19861215		

AB Test double-stranded polynucleotides in a sample are contacted with a single-stranded polynucleotide probe consisting of polynucleotide and at least a 1st element (e.g. dye) linked to the polynucleotide via an arm (e.g. allylamine) and a 2nd element (e.g. dye) linked to the polynucleotide via a 2nd arm (the 1st and 2nd segments of the polynucleotide probe are separated by .apprx.10 other nucleotides), and characteristic changes in hybridization are measured for homogeneous detection of the test polynucleotide. The characteristic changes are changes in fluorescence or thermodn. stability. The dyes are phenanthridine, acridine, and anthracycline. The test involves transformation of the double-stranded form to a single-stranded form prior to hybridization.

IT 20566-69-2, Dimidium
RL: ANST (Analytical study)
(multilabeled polynucleotide probe containing, for polynucleotide detection, fluorescence or thermodn. changes in relation to)

RN 20566-69-2 CAPLUS

CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl- (8CI, 9CI) (CA INDEX NAME)



L6 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1986:16644 CAPLUS

DN 104:16644

TI Self-catalyzed cyclization of the intervening sequence RNA of Tetrahymena: inhibition by methidiumpropyl·EDTA and localization of the major dye binding sites

AU Tanner, N. Kyle; Cech, Thomas R.

CS Dep. Chem., Univ. Colorado, Boulder, CO, 80309, USA

SO Nucleic Acids Research (1985), 13(21), 7759-79
CODEN: NARHAD; ISSN: 0305-1048

DT Journal

LA English

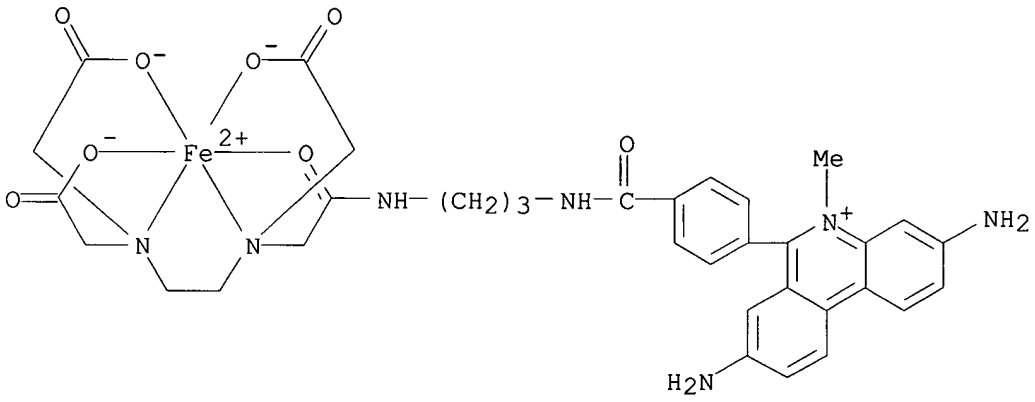
AB The intervening sequence (IVS) excised from the rRNA precursor of T. thermophila is converted to a covalently closed circular RNA in the absence of proteins in vitro. This self-catalyzed cyclization reaction is inhibited by the intercalating dye methidiumpropyl·EDTA (MPE) (Hertzberg, R. P.; Dervin, P. B., 1982). The MPE-binding sites were localized by mapping the sites of MPE·Fe(II) cleavage of the IVS RNA. There are 3 major binding sites within the 414 nucleotide IVS RNA. Two of these sites coincide with the A·B and 9L·2 pairings. These are structural elements that are conserved in all group I introns and are implicated as being functionally important for splicing. It is proposed that interaction of the MPE with these sites is responsible for dye inhibition of cyclization. The reactions of MPE·Fe(II) with an RNA of known structure, tRNAPhe, and with the IVS RNA were studied as a function of temperature, ionic strength, and ethidium concentration Based on the

comparison of the reaction with these 2 RNAs, it is concluded that the dye is a very useful probe for structural regions of large RNAs, whereas it provides more limited structural information about the small, compact tRNA mol.

IT 83693-09-8
RL: BIOL (Biological study)
(RNA site-specific cleavage by, as structural probe)

RN 83693-09-8 CAPLUS

CN Iron, [3,8-diamino-6-[4-[13-(carboxy-κO)-9,12-bis[(carboxy-κO)methyl]-1-oxo-7-(oxo-κO)-2,6,9,12-tetraazatridec-1-yl]phenyl]-5-methylphenanthridiniumato(2-)]- (9CI) (CA INDEX NAME)

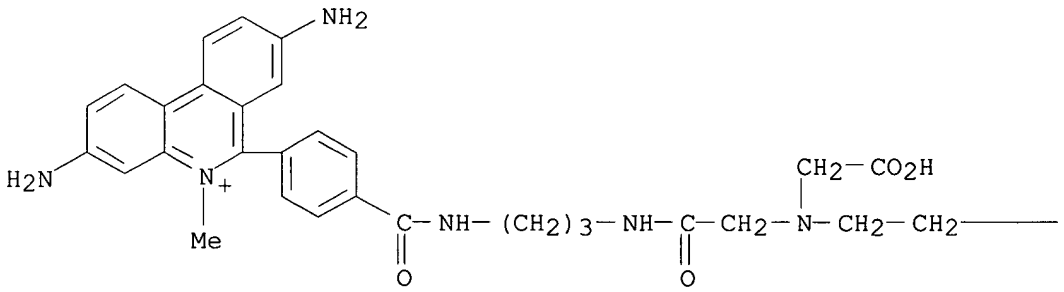


IT 80082-09-3
RL: BIOL (Biological study)
(cyclization of rRNA precursor intervening sequence of Tetrahymena thermophila inhibition by, di-binding sites in relation to)

RN 80082-09-3 CAPLUS

CN Phenanthridinium, 3,8-diamino-6-[4-[13-carboxy-9,12-bis(carboxymethyl)-1,7-dioxo-2,6,9,12-tetraazatridec-1-yl]phenyl]-5-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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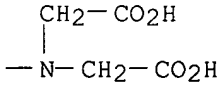
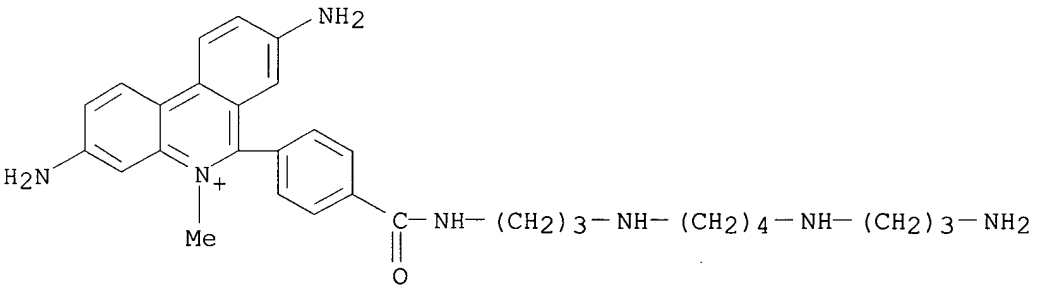


L6 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1983:434663 CAPLUS
DN 99:34663
TI Inhibition of cation-induced DNA condensation by intercalating dyes
AU Widom, Jonathan; Baldwin, Robert L.
CS Med. Cent., Stanford Univ., Stanford, CA, 94305, USA
SO Biopolymers (1983), 22(6), 1621-32
CODEN: BIPMAA; ISSN: 0006-3525
DT Journal
LA English
AB Several intercalating dyes inhibit the cation-induced condensation of λ-DNA when Co3+(NH3)6 is the condensing agent. The dyes studied are ethidium, propidium, proflavine, quinacrine, and actinomycin D. Dye-induced decondensation of intramol. condensed DNA was studied by using conditions in which Co3+(NH3)6 produces intramol. condensation without significant aggregation. Some aggregation is caused, however, during dye-induced decondensation. Dye titration curves of DNA decondensation were measured by excess light scattering to monitor decondensation and by fluorescence to monitor intercalation. All of the dyes studied act as competing cations in displacing the condensing cation Co3+(NH3)6 from the DNA. Competition occurs both in and below the transition zone for condensation. The effectiveness of a dye as a competing cation increases with its net pos. charge. Before decondensation begins, no intercalated dye can be detected, suggesting that intercalation might be incompatible with the proper helix packing needed for cation-induced DNA condensation. To test this last point, methidium-spermine was synthesized: it contains an intercalating methidium head group combined with a polyamine tail. Methidium-spermine caused λ-DNA condensation, but aggregation accompanies condensation, as has been found earlier for spermine and spermidine. Fluorescence and absorption spectra indicate that the methidium group is intercalated when the DNA is condensed, indicating that intercalating need not be incompatible with DNA condensation. The presence of aggregates among the condensed DNA mols. makes this last conclusion tentative.
IT 86388-76-3
RL: BIOL (Biological study)
(cation-induced DNA condensation response to)
RN 86388-76-3 CAPLUS
CN Phenanthridinium, 3,8-diamino-6-[4-[[[3-[[4-[(3-aminopropyl)amino]butyl]amino]propyl]amino]carbonyl]phenyl]-5-methyl- (9CI) (CA INDEX NAME)



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L3          189 S L2
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L5           11 S L3 AND DYE
L6           11 DUP REM L5 (0 DUPLICATES REMOVED)

=> s l3 and label?
        436402 LABEL?
L7          13 L3 AND LABEL?

=> s l7 not l6
L8          11 S L6
L9          13 L7 NOT L8

=> d l9 bib abs hitstr 1-13

L9   ANSWER 1 OF 13  CAPLUS  COPYRIGHT 2006 ACS on STN
AN   2005:1329208  CAPLUS
DN   144:65144
TI   Detection of DNA mismatches and oxidative lesions by converting internal
     3'-phosphate termini to 3'-hydroxy termini and labeling
IN   Barton, Jacqueline K.; Hart, Jonathan
PA   California Institute of Technology, USA
SO   PCT Int. Appl., 40 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
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PI   WO 2005121375         A2    20051222    WO 2005-US20101         20050607
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             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,
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             NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
             SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA,
             ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
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             EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
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             MR, NE, SN, TD, TG
     US 2006014181         A1    20060119    US 2005-147805          20050607
PRAI US 2004-577900P       P     20040607
OS   MARPAT 144:65144
GI
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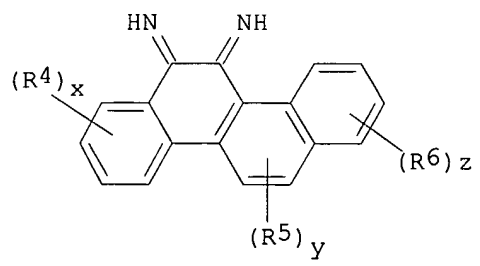


I

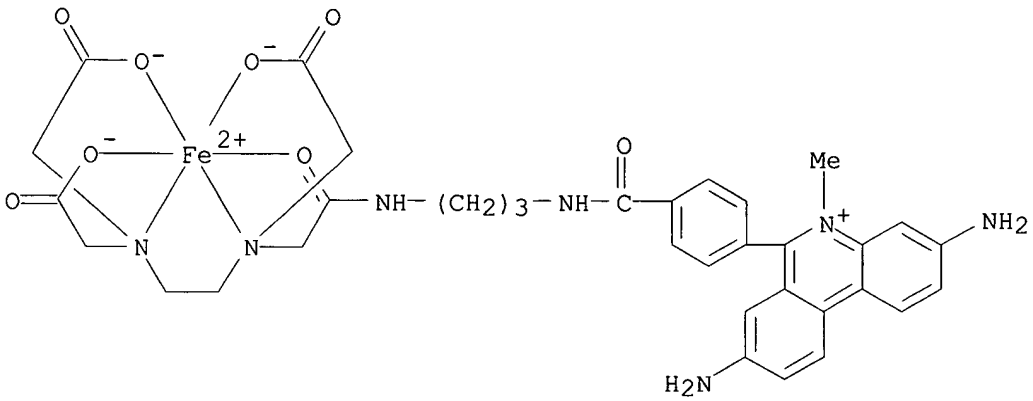
AB Described herein are methods for directly labeling the 3'-phosphate end associated with photocleavage at a mismatch site. Because internal 3'-phosphate termini on DNA duplexes are also associated generally with oxidative lesions, these methods provide a general strategy also for labeling and therefore detecting the frequency of oxidative DNA lesions. Labeling using terminal transferase or nontemplated DNA polymerization is also envisaged, where using either of these activities it is possible to tag a damaged site, after removal of the 3'-phosphate, with polynucleotide tails. Such polynucleotide tails in turn can be used as primer binding sites for use in PCR. In one embodiment, a method of detecting internal 3'-phosphate termini in a nucleic acid duplex from at least one is envisaged including contacting the nucleic acid duplex with an agent to convert an internal 3'-phosphate termini to 3'-hydroxy termini, extending 3'-hydroxy termini present in the duplex by nontemplate dependent DNA polymerization, amplifying the extended product of the resulting products and identifying a nucleotide sequence-dependent feature in the resulting amplified products, where the identified feature in amplified products correlates with the presence of internal 3'-phosphate termini. Further, the converting step may include, but is not limited to, contacting the internal 3'-phosphate termini with T4-polynucleotide kinase (4-TNK) and the nucleic acid duplex containing a mismatched or damaged base. Moreover, the method includes, but is not limited to, contacting the duplex with an AP lyase (e.g., APN1), and in a related aspect, the nontemplate polymerization is carried out with TAQ polymerase, terminal deoxynucleotide transferase (TdT), or DNA polymerase Mu (Pol μ). In another related aspect, annealed nucleic acids may be obtained from more than one sample and nicks may be generated in the annealed product with an agent that cleaves mismatched or damaged nucleotides to generate internal 3'-phosphate termini. Moreover, at least one of the sample nucleic acid duplexes may include an annealed nucleic acid probe. In one aspect, the agent is a hindered intercalating compound of the formula Rh(R1)(R2)(R3)3+, where R1 and R2 are each independently aryl, heteroaryl, substituted aryl or substituted heteroaryl of 1 to 5 rings, and R3 is a group of the formula (I) wherein x and z are each independently an integer from 1 to 4 and y is an integer from 1 to 2, and R4, R5, and R6 are each independently H-, halo, HO-, H2N-, CN-, O2N-, HS-, O3S-, O3SO-, -COOH, -CONH2, RRO-, RNH-, RaRbN-, RO3S-, RO3SO-, -COOR, -CONHR, or -CONRaRb, where R, Ra, and Rb are each independently lower alkyl, cycloalkyl, lower alkenyl, lower alkynyl, or phenol, or two R4, R5, or R6 together form a fused aryl ring, wherein the compound intercalates between bases in the presence of polynucleotide damage or error and does not intercalate between bases in the absence of damage or error. In a related aspect, the agent is Δ- or Λ-Rh(bpy)2(chrysi)3+, where cleaving comprises photocleavage. In a related aspect, the mismatch is allelic and may include, but is not limited to, a single nucleotide polymorphism (SNP). In another aspect, the damage is a DNA lesion from oxidative stressor exposure, UV light exposure, or adduct formation. In one embodiment, a method of identifying mismatches in a sample nucleic acid duplex is envisaged, including producing nicks in the duplex with an agent that cleaves mismatched nucleotides to generate internal 3'-phosphate termini, extending the internal 3'-phosphate termini by nontemplate dependent DNA polymerization, amplifying the extended product, and determining a nucleotide sequence-dependent feature of the resulting amplified products, where differentiation of the feature between amplified products correlates with the presence of a mismatched base. Sensitive methods were developed to quantitate the frequency of mismatches. By labeling the site of mismatch photocleavage, either by fluorescence, radioactivity, or polymerization, quantitation of mismatch cleavage and hence the frequency of mismatches can be achieved. Herein described are methods for directly labeling the 3'-phosphate end associated with photocleavage at a mismatch site.

IT 83693-09-8
RL: RGT (Reagent); RACT (Reactant or reagent)

(to convert an internal 3'-phosphate termini to 3'-hydroxy termini,; detection of DNA mismatches and oxidative lesions by converting internal 3'-phosphate termini to 3'-hydroxy termini and labeling)

RN 83693-09-8 CAPLUS

CN Iron, [3,8-diamino-6-[4-[13-(carboxy-κO)-9,12-bis[(carboxy-κO)methyl]-1-oxo-7-(oxo-κO)-2,6,9,12-tetraazatridec-1-yl]phenyl]-5-methylphenanthridiniumato(2-)]- (9CI) (CA INDEX NAME)



L9 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:902740 CAPLUS

DN 143:263095

TI Selective high-affinity polydentate ligands and methods of making such

IN Denardo, Sally; Denardo, Gerald; Rodney, Balhorn

PA The Regents of the University of California, USA

SO PCT Int. Appl., 106 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005077065	A2	20050825	WO 2005-US4134	20050208
	WO 2005077065	A3	20051222		
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	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2006084115	A1	20060420	US 2005-55181	20050209
PRAI	US 2004-543444P	P	20040209		

AB This invention provides novel polydentate selective high affinity ligands (SHALs) that can be used in a variety of applications in a manner analogous to the use of antibodies. SHALs typically comprise a multiplicity of ligands that each bind different region of the target mol. The ligands are joined directly or through a linker thereby forming a polydentate moiety that typically binds the target mol. with high selectivity and avidity.

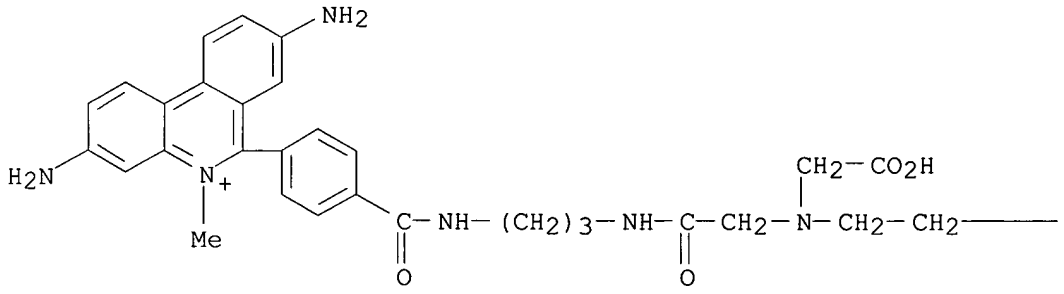
IT 80082-09-3, Methidiumpropyl EDTA
RL: RCT (Reactant); RACT (Reactant or reagent)

(selective high-affinity polydentate ligands and methods of making such)

RN 80082-09-3 CAPLUS

CN Phenanthridinium, 3,8-diamino-6-[4-[13-carboxy-9,12-bis(carboxymethyl)-1,7-dioxo-2,6,9,12-tetraazatridec-1-yl]phenyl]-5-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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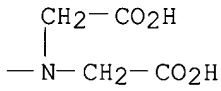


L9 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:771377 CAPLUS

DN 139:288630

TI Labeling reagents and labeled targets, target labeling processes and other processes for using same in nucleic acid determinations and analyses

IN Stavrianopoulos, Jannis G.; Rabbani, Elazar

PA Enzo Life Sciences, Inc., USA

SO Eur. Pat. Appl., 4 pp.
CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 1348713	A2	20031001	EP 2003-4894	20030306
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2003225247	A1	20031204	US 2002-96075	20020312
CA 2421552	AA	20030912	CA 2003-2421552	20030311
JP 2004004048	A2	20040108	JP 2003-114988	20030311
US 2004203038	A1	20041014	US 2004-761906	20040121
US 2004254355	A1	20041216	US 2004-763076	20040122
US 2006172308	A1	20060803	US 2004-763088	20040122
US 2004176586	A1	20040909	US 2004-764418	20040123
US 2004192893	A1	20040930	US 2004-764417	20040123
US 2004230036	A1	20041118	US 2004-764389	20040123
US 2004229248	A1	20041118	US 2004-764393	20040123

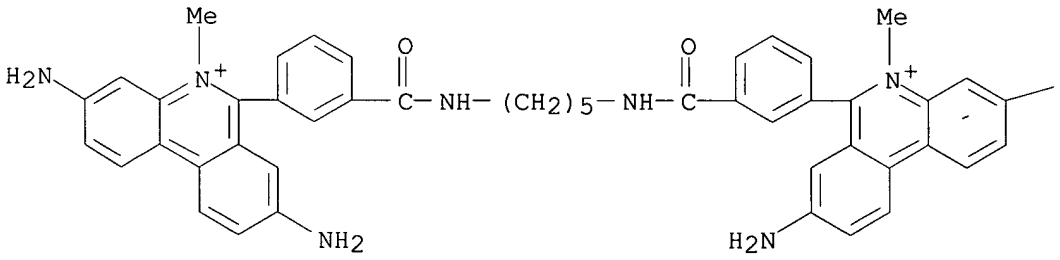
US 6949659 B2 20050927
US 2005004350 A1 20050106 US 2004-764388 20040123
PRAI US 2002-96075 A 20020312

AB This invention provides for labeling reagents, labeled targets and processes for preparing labeling reagents. The labeling reagents can take the form of cyanine dyes, xanthene dyes, porphyrin dyes, coumarin dyes or composite dyes. These labeling reagents are useful for labeling probes or targets, including nucleic acids and proteins. These reagents can be usefully applied to protein and nucleic acid probe based assays. They are also applicable to real-time detection processes.

IT 67987-16-0P 599177-71-6P
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(labeling reagents and labeled targets, target labeling processes and other processes for using same in nucleic acid detns. and analyses)

RN 67987-16-0 CAPLUS
CN Phenanthridinium, 6,6'-[1,5-pentanediylbis(iminocarbonyl-3,1-phenylene)]bis[3,8-diamino-5-methyl-, dichloride (9CI) (CA INDEX NAME)

PAGE 1-A



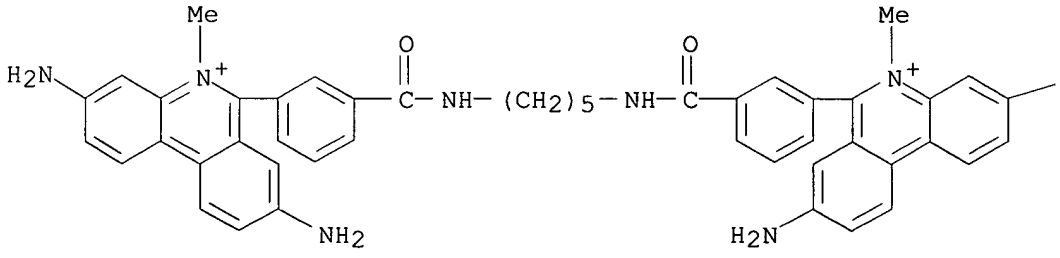
●2 Cl⁻

PAGE 1-B

—NH2

RN 599177-71-6 CAPLUS
CN Phenanthridinium, 6,6'-[1,5-pentanediylbis(iminocarbonyl-3,1-phenylene)]bis[3,8-diamino-5-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



$-NH_2$

L9 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:734657 CAPLUS
DN 139:241306
TI Methods and kits for detection of nucleic acids using fluorescence resonance energy transfer
IN Rabbani, Elazar; Stavrianopoulos, Jannis G.; Donegan, James J.; Coleman, Jack; Liu, Dakai
PA Enzo Life Sciences, Inc., USA
SO Eur. Pat. Appl., 115 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1344835	A2	20030917	EP 2003-4895	20030306
	EP 1344835	A3	20040331		
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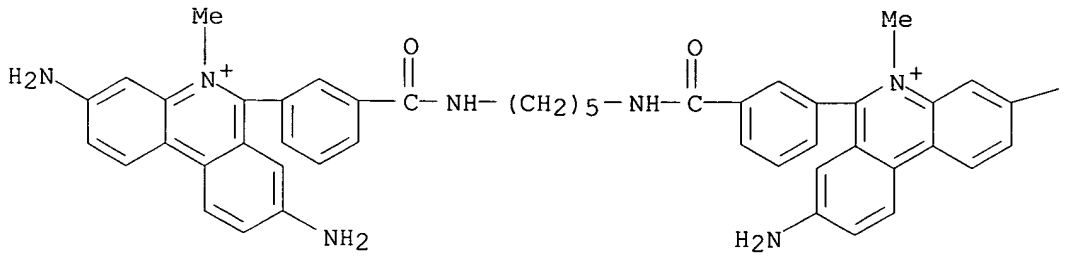
	US 2005137388	A1	20050623	US 2002-96076	20020312
	CA 2421556	AA	20030912	CA 2003-2421556	20030311
	JP 2003334097	A2	20031125	JP 2003-114989	20030311
	US 2006029968	A1	20060209	US 2005-235516	20050926
	US 2006024735	A1	20060202	US 2005-236151	20050927
	US 2006024737	A1	20060202	US 2005-237442	20050927
	US 2006024738	A1	20060202	US 2005-237467	20050927
	US 2006035264	A1	20060216	US 2005-237466	20050927
PRAI	US 2002-96076	A	20020312		

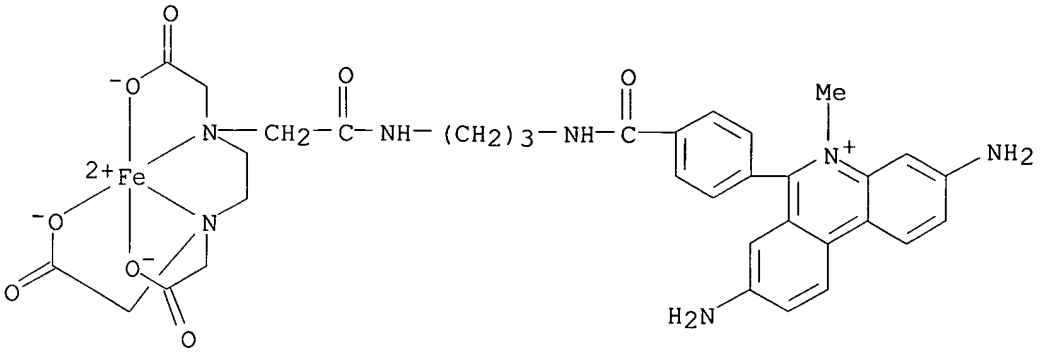
AB This invention provides for compns. for use in real time nucleic acid detection processes. Such real time nucleic acid detection processes are carried out with energy transfer elements attached to nucleic acid primers, nucleotides, nucleic acid probes or nucleic acid binding agents. Real time nucleic acid detection allows for the qual. or quant. detection or determination of single-stranded or double-stranded nucleic acids of interest
in a sample. Other processes are provided by this invention including processes for removing a portion of a homopolymeric sequence, e.g., poly A sequence or tail, from an analyte or library of analytes. Compns. useful in carrying out such removal processes are also described and provided.
IT 599177-71-6P
RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); RCT (Reactant); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(methods and kits for detection of nucleic acids using fluorescence resonance energy transfer)
RN 599177-71-6 CAPLUS
CN Phenanthridinium, 6,6'-[1,5-pentanediylbis(iminocarbonyl-3,1-phenylene)]bis[3,8-diamino-5-methyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

L9 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:671726 CAPLUS
DN 136:227333
TI Footprinting methods for analysis of pyrrole-imidazole polyamide/DNA complexes
AU Trauger, John W.; Dervan, Peter B.
CS Department of Chemistry, California Institute of Technology, Pasadena, CA, 91125, USA
SO Methods in Enzymology (2001), 340(Drug-Nucleic Acid Interactions), 450-466
CODEN: MENZAU; ISSN: 0076-6879
PB Academic Press
DT Journal; General Review
LA English
AB A review describes the footprinting methods for the anal. of pyrrole-imidazole polyamide/DNA complexes. Topics discussed include the preparation of 32P end-labeled DNA; preparation of polyamide serial dilns.; quant. DNase I footprinting procedure; methidiumpropyl-EDTA-Fe(II) footprinting protocol and affinity cleavage protocols; and characterization of eight-ring polyamide ImPy-β-ImPy-γ-ImPy-β-ImPy-β-Dp. (c) 2001 Academic Press.
IT 83789-87-1
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(footprinting methods for anal. of pyrrole-imidazole polyamide/DNA complexes)
RN 83789-87-1 CAPLUS
CN Iron, [3,8-diamino-6-[4-[13-(carboxy-κO)-9,12-bis[(carboxy-κO)methyl]-1,7-dioxo-2,6,9,12-tetraazatridec-1-yl-κN9,κN12]phenyl]-5-methylphenanthridiniumato(3-)]- (9CI) (CA INDEX NAME)



RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:34743 CAPLUS
DN 124:66638
TI Composition for delivery of toxic radioisotopes to the cell nucleus for tumor therapy
IN Mattes, M. Jules
PA Center for Molecular Medicine and Immunology, USA
SO PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

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PI	WO 9529707	A1	19951109	WO 1995-US4440	19950421
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	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2189051	AA	19951109	CA 1995-2189051	19950421
	AU 9522845	A1	19951129	AU 1995-22845	19950421
	EP 757559	A1	19970212	EP 1995-916300	19950421
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	JP 10503478	T2	19980331	JP 1995-528249	19950421
	US 5759514	A	19980602	US 1996-695182	19960801
PRAI	US 1994-235319	A	19940429		
	WO 1995-US4440	W	19950421		

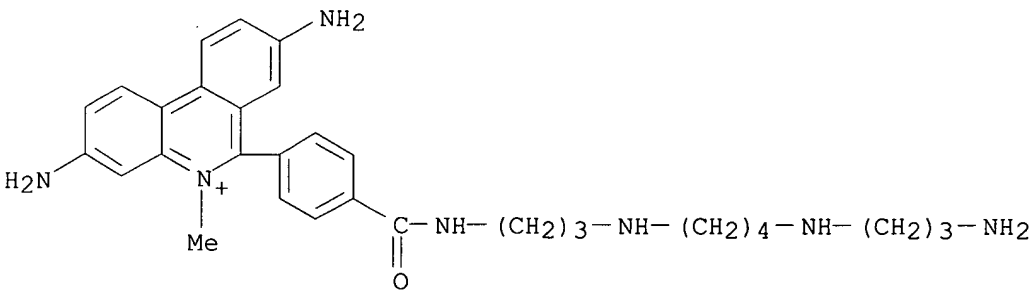
AB A conjugate of a tumor cell-targeting protein or polypeptide and a nucleic acid-targeting small mol. labeled with an Auger electron-emitting radionuclide is useful for tumor therapy. The tumor cell-targeting protein or polypeptide may be an antibody or fragment thereof, a hormone, or a growth factor. Thus, tumor-associated antigen-specific monoclonal antibody MA103 conjugated to 125I-labeled dilactitol-tyramine or 125I-labeled DTAF was internalized and processed by SK-RC-18 carcinoma cells, with retention half-lives of 104 and 52 h, resp. After lysosomal degradation of the antibody, the intracellularly released DTAF can pass through the lysosomal and nuclear membranes and bind to DNA.

IT 86388-76-3D, Methidium-spermine, radiolabeled, conjugates with tumor cell-binding proteins
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(composition for delivery of toxic radioisotopes to cell nucleus for tumor therapy)

RN 86388-76-3 CAPLUS

CN Phenanthridinium, 3,8-diamino-6-[4-[[[3-[[4-[(3-aminopropyl)amino]butyl]amino]propyl]amino]carbonyl]phenyl]-5-methyl-(9CI) (CA INDEX NAME)



L9 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1993:59272 CAPLUS

DN 118:59272

TI A convenient method to synthesize tritium-labeled N-[3H]methyl-N-nitrosocarbamate transfer reagents

AU Mehta, Pratibha; Konakahara, Takeo; Gold, Barry

CS Eppley Inst. Res. Cancer Allied Dis., Univ. Nebraska, Omaha, NE, 68198-6805, USA

SO Journal of Labelled Compounds and Radiopharmaceuticals (1992), 31(11), 925-31
CODEN: JLCRD4; ISSN: 0362-4803

DT Journal

LA English

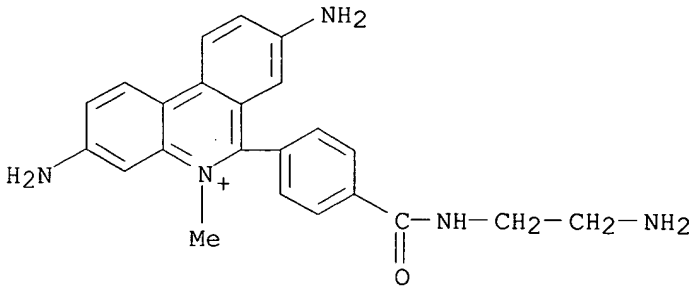
OS CASREACT 118:59272

AB Generally, the synthesis of activated nitrosocarbamates requires condensation of radiolabeled alkyl isocyanates with the appropriate alc. Radiolabeled alkyl isocyanates are com. unavailable and/or troublesome to synthesize; thus, an easy and economical method for preparing N-[3H]methyl-N-nitrosocarbamates suitable for use as transfer reagents via amidation of 1,2,2,2-tetrachloroethyl chloroformate with [3H]methylamine hydrochloride [affording 1,2,2,2-tetrachloroethyl N-[3H]methylcarbamate in 96% yield, sp. activity 30.1 μCi/mmol] has been developed.

IT 105885-55-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(carbamate-forming reaction of, with tritium-labeled tetrachloroethyl methylnitrosocarbamate)

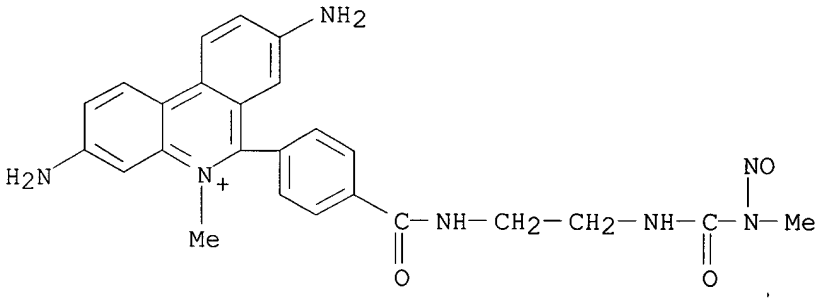
RN 105885-55-0 CAPLUS

CN Phenanthridinium, 3,8-diamino-6-[4-[[(2-aminoethyl)amino]carbonyl]phenyl]-5-methyl-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

IT 116405-70-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 116405-70-0 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-[4-[[[2-[[(methylnitrosoamino)carbonyl]amino]ethyl]amino]carbonyl]phenyl]-, chloride (9CI) (CA INDEX NAME)



● Cl⁻

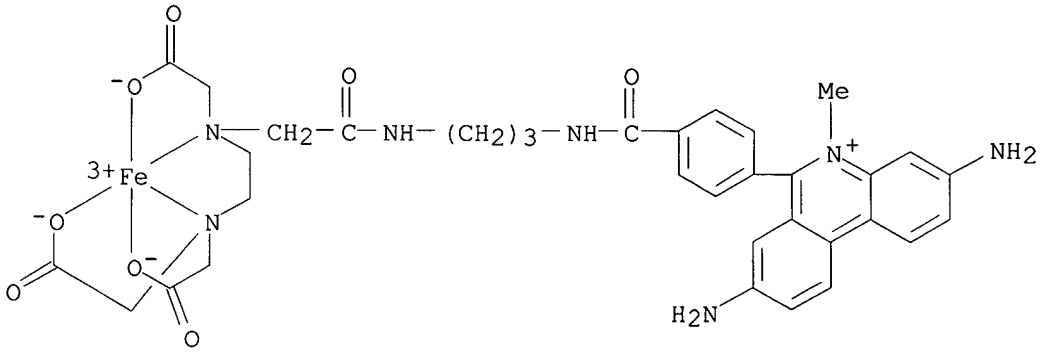
L9 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1990:18508 CAPLUS
DN 112:18508
TI Quantitative footprinting analysis of drug-DNA interactions: Fe(III) methidium-propyl-EDTA as a probe
AU Dabrowiak, James C.; Kissinger, Koren; Goodisman, Jerry
CS Dep. Chem., Syracuse Univ., Syracuse, NY, 13244-1200, USA
SO Electrophoresis (1989), 10(5-6), 404-12
CODEN: ELCTDN; ISSN: 0173-0835
DT Journal
LA English
AB Quant. footprinting studies involving a 139-base pair restriction fragment from pBR322 DNA, lexitropsin ligand and two different DNA cleavage agents, the enzyme DNase I and the footprinting reagent Fe(III) methidium-propyl-EDTA (Fe-MPE), are described. The autoradiog. data showed that the ligand, an analog of netropsin possessing two N-methylimidazole groups, binds to four regions on the 139-mer which are rich in GC. Anal. of the data leading to individual binding consts. for each of the four loading events on the 139-mer revealed that Fe-MPE and DNase I report the same binding consts. for the lexitropsin bound to its

interaction sequences. The fact that the data from both probes can be analyzed using a common model indicates that the DNA cleavage specificity of the probe and not its binding/cleavage mechanism is the important factor in reporting of site loading information in the footprinting experiment The study also showed that under certain conditions it is possible to gain information on the d. of ligand binding sites on carrier DNA by monitoring site loading events on the labeled fragment.

IT 122721-72-6
RL: ANST (Analytical study)
(in drug-DNA interactions study by quant. footprinting anal.)

RN 122721-72-6 CAPLUS

CN Iron(1+), [3,8-diamino-6-[4-[13-carboxy-9,12-bis(carboxymethyl)-1,7-dioxo-2,6,9,12-tetraazatridec-1-yl]phenyl]-5-methylphenanthridiniumato(3-)]-(9CI) (CA INDEX NAME)



L9 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1989:187936 CAPLUS

DN 110:187936

TI Site-specific interaction of intercalating drugs with a branched DNA molecule

AU Guo, Qiu; Seeman, Nadrian C.; Kallenbach, Neville R.

CS Dep. Chem., New York Univ., New York, NY, 10003, USA

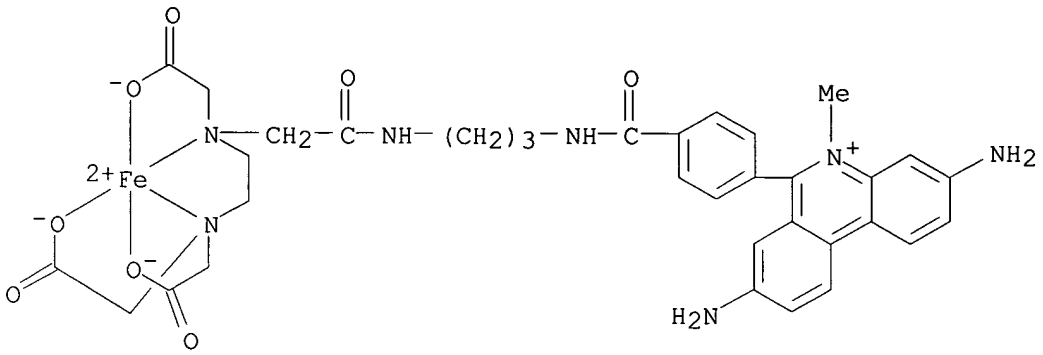
SO Biochemistry (1989), 28(6), 2355-9
CODEN: BICHAW; ISSN: 0006-2960

DT Journal

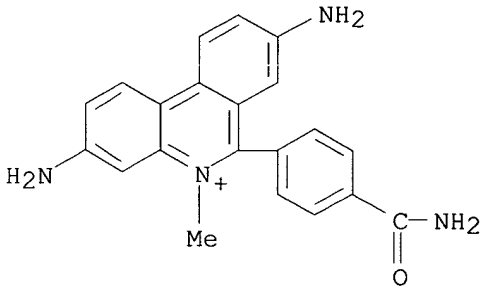
LA English

AB The interaction of a stable branched DNA mol. with an intercalative drug is probed by hydroxyl radical scission. Methidiumpropyl-EDTA·Fe(II) [MPE·Fe(II)], consisting of an intercalating ring system tethered to EDTA·Fe(II), produces the hydroxyl radicals by a Fenton reaction. The cleavage patterns of each labeled strand in a branched tetramer of 4 16-mers are compared with those of the same strands in unbranched duplex controls. Strong differences between the profiles corresponding to scission of branched and duplex DNA mols. are seen in each of the strands at low MPE/DNA ratios. A specific site in the branched structure interacts preferentially with the drug, while other regions of the mol. are protected from cleavage. At 4°, cutting at strand positions demarcating the site of enhanced affinity is observed to be .apprx.60% more efficient than at the corresponding sequence positions in the control duplex DNA mols.; the degree of protection at the second site is comparable. Cleavage in the vicinity of the preferred site occurs at residues flanking the branch point that are asym. distributed with respect to it. The reactive Fe(II) group appears to be centered within 2 residues of the branch point, and the site of preferential intercalation may be between the 2 base pairs closest to the branch point in 1 of the 4 arms. The pattern of preferential cutting at this site is eliminated in the presence of excess propidium diiodide, another intercalative drug.

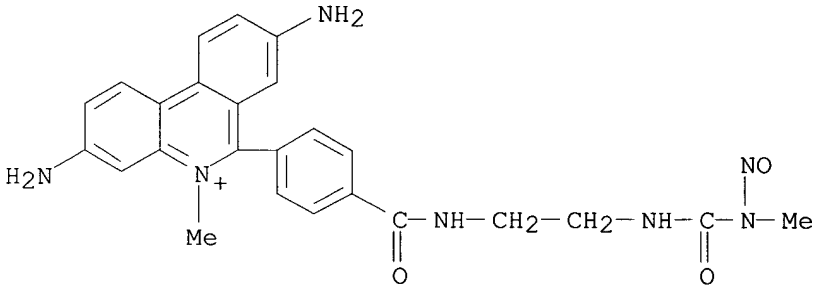
IT 83789-87-1
RL: BIOL (Biological study)
(DNA tetramer branched junction-containing and duplex forms intercalation of and cleavage by)
RN 83789-87-1 CAPLUS
CN Iron, [3,8-diamino-6-[4-[13-(carboxy-κO)-9,12-bis[(carboxy-κO)methyl]-1,7-dioxo-2,6,9,12-tetraazatridec-1-yl-κN9,κN12]phenyl]-5-methylphenanthridiniumato(3-)]- (9CI) (CA INDEX NAME)



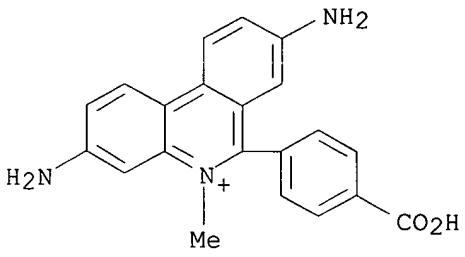
L9 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1988:606515 CAPLUS
DN 109:206515
TI Synthesis of an N-methyl-N-nitrosourea linked to a methidium chloride analog and its reactions with phosphorus-32-end-labeled DNA
AU Konakahara, Takeo; Wurdeman, Richard L.; Gold, Barry
CS Eppley Inst. Res. Cancer Allied Dis., Univ. Nebraska, Omaha, NE, 68105, USA
SO Biochemistry (1988), 27(23), 8606-13
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
OS CASREACT 109:206515
AB The synthesis and characterization of an N-methyl-N-nitrosourea (MNU) analog that is covalently linked to a methidium nucleus (I) is described. At 37° in pH 8.0 buffer I hydrolyzes via pseudo-first-order kinetics, with a calculated t1/2 = 77 min. By use of polyacrylamide sequencing gels the formation of piperidine-labile N7-methylguanine adducts from the reaction of I and MNU with 5'-32P-end-labeled DNA restriction fragments is reported. DNA methylation by I in 10 mM Tris buffer is enhanced with increasing ionic strength (50-200 mM NaCl), which contrasts to the inhibition of MNU-induced cleavage with increasing salt. In addition, I methylates all G sites equally, whereas MNU shows a clear preference for d(G)n (n ≥ 3) runs and an asym. methylation pattern within these G-rich regions. The results are discussed in terms of the delivery of the MNU moiety to the DNA target by a nonsequence-specific intercalation process and the subsequent hydrolytic generation of a nondiffusible alkylating intermediate.
IT 116375-33-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)
RN 116375-33-8 CAPLUS
CN Phenanthridinium, 3,8-diamino-6-[4-(aminocarbonyl)phenyl]-5-methyl-, chloride (9CI) (CA INDEX NAME)



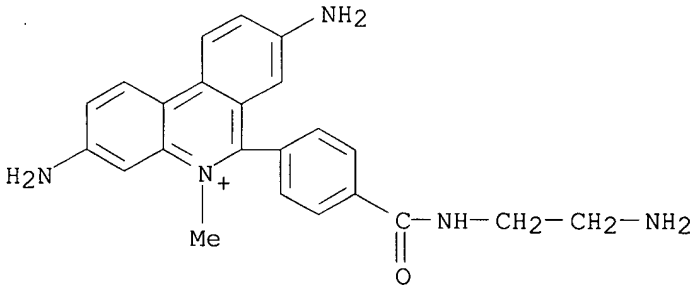
IT 116405-70-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of and DNA methylation by)
RN 116405-70-0 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-[4-[[[2-[[(methylnitrosoamino)carbonyl]amino]ethyl]amino]carbonyl]phenyl]-, chloride (9CI) (CA INDEX NAME)



IT 52671-19-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of and conversion to [[(aminoethyl)carbamoyl]phenyl] derivative)
RN 52671-19-9 CAPLUS
CN Phenanthridinium, 3,8-diamino-6-(4-carboxyphenyl)-5-methyl-, chloride (9CI) (CA INDEX NAME)



IT 116375-34-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of and conversion to [[[[(nitrosomethylcarbamoyl)amino]ethyl]carbamoyl]phenyl] derivative)
RN 116375-34-9 CAPLUS
CN Phenanthridinium, 3,8-diamino-6-[4-[[(2-aminoethyl)amino]carbonyl]phenyl]-5-methyl-, chloride, monohydrochloride (9CI) (CA INDEX NAME)



L9 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1988:161013 CAPLUS
DN 108:161013
TI Selective strand scission by intercalating drugs at DNA bulges
AU Williams, Loren Dean; Goldberg, Irving H.
CS Dep. Biol. Chem. Mol. Pharmacol., Harvard Med. Sch., Boston, MA, 02115, USA
SO Biochemistry (1988), 27(8), 3004-11
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
AB Bulge-specific strand scission by the DNA intercalating/cleaving drugs neocarzinostatin chromophore (NCS-C), bleomycin (BLM), and methidiumpropyl-EDTA (MPE) is described. A series of 5'-32P end-labeled oligonucleotide duplexes were constituted that are identical except for the location of a bulge. In each successive duplex of the series, a bulge has been shifted stepwise up (from 3' to 5') one

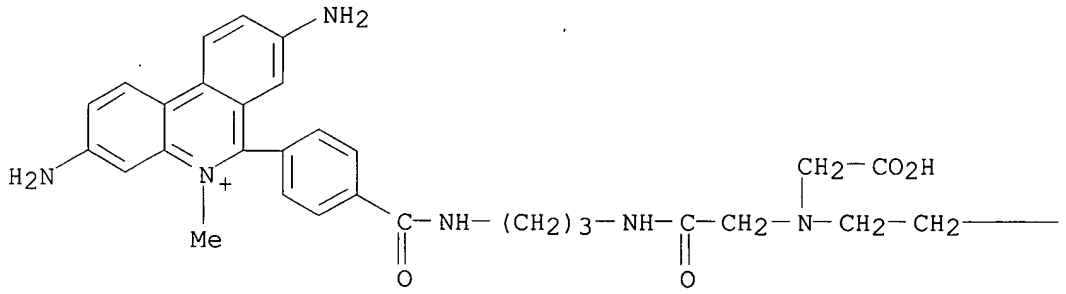
strand of the duplex. Similarly, in each successive duplex of the series, sites of bulge-specific scission and protection were observed to shift in a stepwise manner. The results show that throughout the series of bulged duplexes, NCS-C causes specific scission at a site near a bulge, BLM causes specific scission at a site near a bulge, and MPE·Fe(II) causes specific scission centered around the bulge. Kn some sequences, NCS-C and BLM each cause bulge-specific scission at second sites. Further, bulged DNA shows sites of protection from NCS-C and BLM scission. The results are discussed with respect to a model of bulged DNA. It appears that specific scission at DNA bulges can be employed as a general assay for intercalation and binding orientation.

IT 90912-87-1
RL: BIOL (Biological study)
(DNA strand scission by, bulge-specific)

RN 90912-87-1 CAPLUS

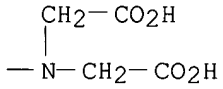
CN Phenanthridinium, 3,8-diamino-6-[4-[13-carboxy-9,12-bis(carboxymethyl)-1,7-dioxo-2,6,9,12-tetraazatridec-1-yl]phenyl]-5-methyl-, chloride (9CI) (CA INDEX NAME)

PAGE 1-A



● Cl^-

PAGE 1-B



L9 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1983:466071 CAPLUS

DN 99:66071

TI Footprinting with MPE·iron(II). Complementary-strand analyses of distamycin- and actinomycin-binding sites on heterogeneous DNA

AU Van Dyke, M. W.; Dervan, Peter B.

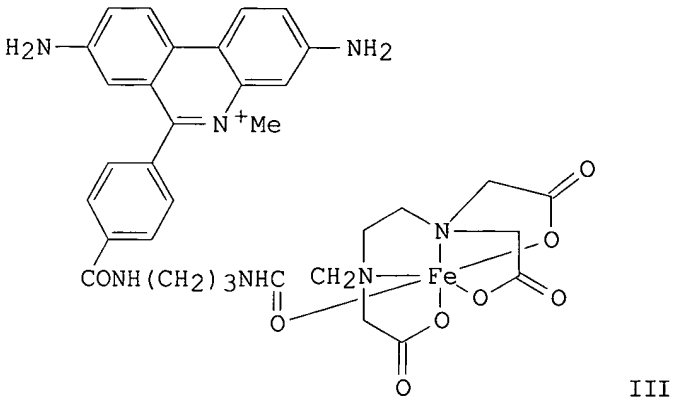
CS Div. Chem. Chem. Eng., California Inst. Technol., Pasadena, CA, 91125, USA

SO Cold Spring Harbor Symposia on Quantitative Biology (1983), Volume Date 1982, 47(1), 347-53
CODEN: CSHSAZ; ISSN: 0091-7451

DT Journal

LA English

GI



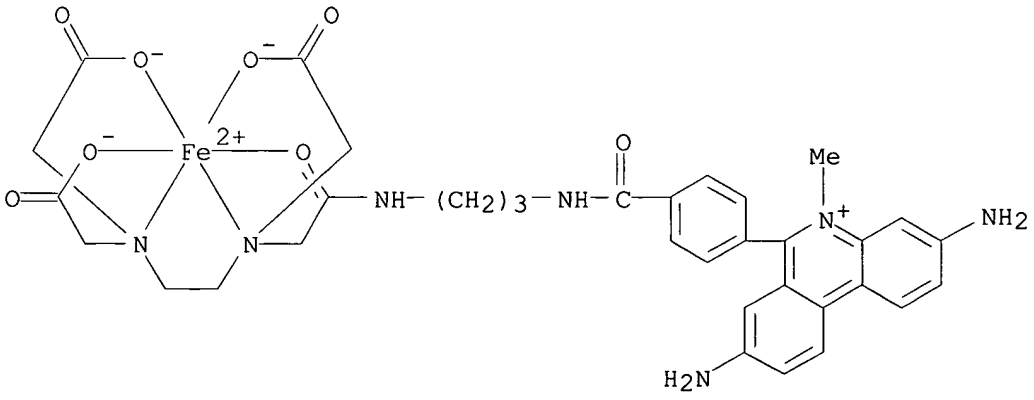
III

AB Complementary strand anal. of distamycin A (I)- and actinomycin D (II)-binding sites of Escherichia coli lactose operon DNA using the methidiumpropyl-EDTA-Fe(II) (III) footprinting technique was reported. Two restriction fragments, containing regions of identical sequence and 117 and 168 base pairs (bp) in length, were prepared with 3'-end 32P labeling on complementary strands and used as substrates. III cleavage inhibition patterns resulting from drug protection provided opposite-site footprints. Binding sites were localized on 50-bp sections of the restriction fragments. I binding protected 24 out of 50 bp, of which 20 (83%) were adenine-thymine pairs. The min. protected region was a 4-bp sequence, AATT. For this size sequence the binding d. (ligand bound/bp) was 0.12 or 6 mols. on the 50-bp sequence. II binding protected 22 out of 50 bp, 15 (68%) being guanine-cytosine pairs. The min. protected site was a 3-bp sequence, GTG, and the binding d. was 0.11-0.15 or .apprx.6-7 mols. on the 50-bp sequence. As predicted, the footprints were shifted 1-2 bp to the 3' side on each strand and were underprotected by 1 bp on the 5' side.

IT 83693-09-8
RL: BIOL (Biological study)
(in DNA drug-binding complementary-strand anal., by footprinting)

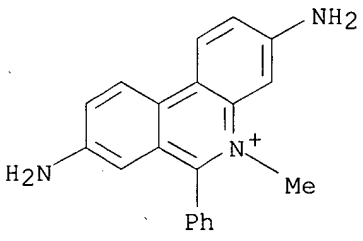
RN 83693-09-8 CAPLUS

CN Iron, [3,8-diamino-6-[4-[13-(carboxy-κO)-9,12-bis[(carboxy-κO)methyl]-1-oxo-7-(oxó-κO)-2,6,9,12-tetraazatridec-1-yl]phenyl]-5-methylphenanthridiniumato(2-)]- (9CI) (CA INDEX NAME)



L9 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1965:39544 CAPLUS
DN 62:39544
OREF 62:7002d-f
TI Preparation and biological activity of some complexes of trypanocidal phenanthridinium compounds
AU Groves, M. J.; Wilmshurst, E. C.
CS Boots Pure Drug Co. Ltd., Nottingham, UK
SO Journal of Pharmacy and Pharmacology (1964), 16(Suppl.), 140-6
CODEN: JPPMAB; ISSN: 0022-3573
DT Journal
LA English
AB Acacia, agar, carbopol 934, carboxymethyl cellulose, degraded carrageen, heparin, laminarin sulfate (I), pectin, Na alginate, stearic acid, sterculia, and tragacanth were complexed with Prothidium bromide (II), 2-amino-7-(2-amino-6-methyl-4-pyrimidylamino)-9-(p-nitrophenyl)phenanthridinium 10,1'-dimethochloride (III), 2-amino-7-(2-amino-6-methyl-4-pyrimidylamino)-9-phenylphenanthridinium 10-ethomethanesulfonate 1'-methomethanesulfonate (IV), homidium bromide, isometamidium, and dimidium. The insol. complexes were prepared by slow addition of an excess of 1% solution of phenanthridinium salt in water, with stirring, to a 1% solution or gel of the complexing substance. The mixture was stirred, let stand 1 hr., then centrifuged. The precipitate was resuspended and recentrifuged. After total N analysis the precipitate was suspended in 2% hydroxyethyl cellulose. Soluble solns. were also prepared Saturated solns. of II or homidium bromide added to agar or pectin produced a color change but no precipitate The agar complexes were evaporated to dryness then redissolved in hot water. Pectin complexes were redissolved in excess of EtOH. Mice were injected subcutaneously with 0.2 or 1.0 mg. of phenanthridinium compound/kg. or the complexes. The mice were then challenged with injections of Trypanosoma congolense. Only complexes of II with I showed any marked activity in the mouse. The resuspended II-I complex was less active than the original suspension. I and degraded carrageen enhanced the activities of isometamidium and III. Coupling with I enhanced IV activity. Complexing did not change the effect of II against trypanosomiasis in cattle.
IT 20566-69-2, Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl-
(salts, reaction products with polysaccharides, preparation of and Trypanosoma response to)
RN 20566-69-2 CAPLUS
CN Phenanthridinium, 3,8-diamino-5-methyl-6-phenyl- (8CI, 9CI) (CA INDEX NAME)



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